M 7.1, 138km E of Bitung, Indonesia

PAGER
Version 5

Origin Time: 2019-11-14 16:17:40 UTC (Fri 01:17:40 local)
Location: 1.6294° N 126.4144° E Depth: 33.0 km
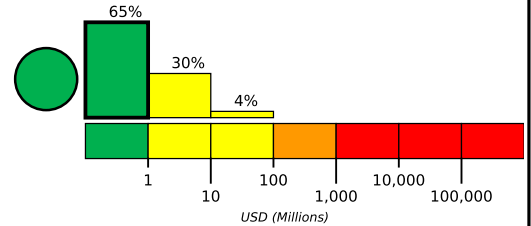**FOR TSUNAMI INFORMATION, SEE: tsunami.gov**

Created: 1 day, 2 hours after earthquake

Estimated Fatalities

65% · 30% · 4%

1   10   100   1,000   10,000   100,000
Fatalities

Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.
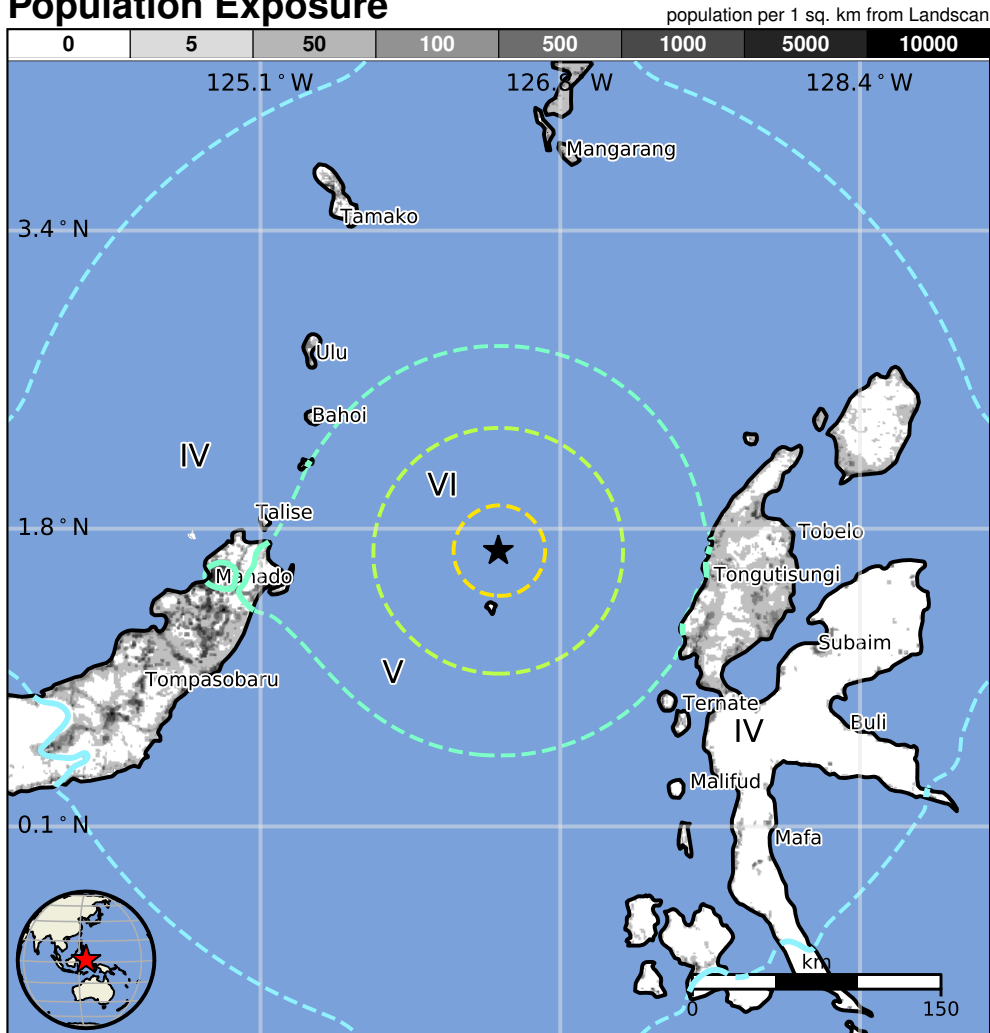
Estimated Economic Losses

65% · 30% · 4%

1   10   100   1,000   10,000   100,000
USD (Millions)

Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		–*	24k*	2,803k	639k	0	0	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		**I**	**II-III**	**IV**	**V**	**VI**	**VII**	**VIII**	**IX**	**X+**
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure

population per 1 sq. km from Landscan

0   5   50   100   500   1000   5000   10000

Structures

Overall, the population in this region resides in structures that are vulnerable to earthquake shaking, though resistant structures exist. The predominant vulnerable building types are unreinforced brick with concrete floor and precast concrete frame with wall construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
2007-01-21	57	7.5	VI(283k)	3
1994-10-08	359	6.8	VII(5k)	1
1994-01-21	164	6.9	IX(28k)	7

Recent earthquakes in this area have caused secondary hazards such as tsunamis that might have contributed to losses.

Selected City Exposure
from GeoNames.org

MMI	City	Population
V	Bitung	137k
V	**Manado**	**452k**
V	Kema	<1k
V	**Tongutisungi**	**<1k**
V	Kauditan	<1k
V	Tatelu	<1k
IV	Tondano	33k
IV	Tomohon	28k
IV	**Ternate**	**102k**
IV	Sofifi	36k
IV	**Tobelo**	**10k**

bold cities appear on map.   (k = x1000)

PAGER content is automatically generated, and only considers losses due to structural damage.
Limitations of input data, shaking estimates, and loss models may add uncertainty.
https://earthquake.usgs.gov/earthquakes/eventpage/us60006bjl#pager

Event ID: us60006bjl